Data Description for Trawl Samples

General:

The Louisiana Department of Wildlife and Fisheries (LDWF) generates these data on a regular schedule by means of samples with trawl nets at 15 fixed locations. These locations are identified as numbered stations. A sampling event consists of pulling a trawl net through the water for ten minutes. The effort is designed mainly to monitor shrimp size and abundance in order to regulate the commercial harvest season for white and brown shrimp. The by-catch, consisting of fin fish, crabs, and squid, is also measured. Each record includes physical and meteorological measurements coincident with the sample.

LDWF takes weekly trawl samples from March through October at eleven shallow water stations and four deep water stations. November through February, only the deep water stations are sampled, with the schedule relaxed to one sample every two weeks. For shallow water sampling, the LDWF uses a 6-foot flat otter trawl with 5/8" bar wings and ¼" bar tail. Deep water sampling employs a 16-foot flat otter trawl with ¾" bar wings and ¼" bar tail.

The data set contains observations from more than just 15 stations. These consist of irregularly-sampled trawl locations sampled during special projects, stations which supply only physical/meteorological data, and stations where crab traps are set. Sampling locations are shown in Map 2003-04-121.pdf .

All shrimp and finfish collected in the sample are classified and counted. Fifty randomly-selected individuals from each species are measured and their length recorded in 5 millimeter increments.

LDWF uses the trawl catch to monitor the blue crab fishery in Breton Sound. All crabs are counted, and (abundance permitting) fifty randomly-selected crabs are measured and sexed. Beginning in 2001, the crab data gained from the trawl catch have been augmented with measurements from crab traps set at 15 locations.

Data Column Descriptions:

Station: See Map 2003-04-121.pdf for station locations. The geographic coordinates of the stations are reported below. The crab trap stations, numbered 701-715 are shown in the same map. Stations numbered 302-375 are isohaline stations which contribute only geophysical data; these are shown in the map accompanying the Isohaline/Butler Plate data (Map 2003-04-124.pdf). Stations numbered 954-981 are trawl locations for a special project in 2001 for the National Marine Fisheries Service (NMFS). Map and coordinates for these stations are not yet available.

Six-Foot Trawl Stations

Station	Latitude	Longitude
005	29° 34' 30"	89° 42' 48"
017	29° 37' 24"	89° 51' 30"
018	29° 36' 06"	89° 47' 04"
021	29° 42' 24"	89° 38' 54"
022	29° 37' 54"	89° 47' 15"
025	29° 42' 48"	89° 47' 48"
032	29° 39' 51"	89° 32' 24"
036	29° 30' 03"	89° 39' 04"
101	29° 47' 54"	89° 49' 18"
102	29° 42' 12"	89° 54' 18"
103	29° 41' 48"	89° 42' 00"

Sixteen-Foot Trawl Stations

Station	Latitude	Longitude
059	29° 34' 54"	89° 36' 36"
085	29° 27' 18"	89° 31' 06"
104	29° 43' 48"	89° 36' 30"
105	29° 37' 48"	89° 30' 30"

Isohaline Sampling Stations

Station	Latitude	Longitude
002	29° 34’ 12’’	89° 38’ 36’’
052*	29° 35’ 49’’	89° 38’ 33’’
251*	29° 31’ 39’’	89° 37’ 16’’
338	29° 38’ 12’’	89° 34’ 00’’
339	29° 38’ 18’’	89° 31’ 00’’
340	29° 40’ 10’’	89° 30’ 40’’
346	29° 35’ 54’’	89° 37’ 12’’
347	29° 36’ 24’’	89° 34’ 06’’
348	29° 36’ 42’’	89° 32’ 00’’
349	29° 37’ 18’’	89° 29’ 12’’
351*	29° 31’ 39’’	89° 37’ 16’’
352*	29° 35’ 49’’	89° 38’ 33’’
354	29° 34’ 48’’	89° 36’ 18’’
355	29° 34’ 42’’	89° 33’ 42’’
356	29° 33’ 00’’	89° 31’ 48’’
357	29° 33’ 48’’	89° 29’ 00’’
362	29° 31’ 22’’	89° 33’ 23’’
363	29° 31’ 24’’	89° 30’ 48’’
364	29° 29’ 54’’	89° 28’ 46’’
368	29° 29’ 54’’	89° 34’ 03”
369	29° 28’ 00’’	89° 32’ 29”
370	29° 27’ 41’’	89° 29’ 14”
374	29° 26’ 45’’	89° 31’ 37”
375	29° 25’ 36’’	89° 30’ 24”

Crab Trap Stations

Station	Latitude	Longitude
701	29° 44’ 30”	89° 48’ 13’’
702	29° 41’ 24”	89° 47’ 13’’
703	29° 43’ 18”	89° 48’ 25’’
704	29° 41’ 36”	89° 51’ 36’’
705	29° 39’ 24”	89° 52’ 07’’
706	29° 34’ 24”	89° 38’ 49’’
707	29° 39’ 31”	89° 47’ 25’’
708	29° 37’ 54”	89° 46’ 42’’
709	29° 42’ 07”	89° 42’ 06’’
710	29° 38’ 31”	89° 42’ 24’’
711	29° 34’ 37”	89° 42’ 25’’
712	29° 34’ 24”	89° 38’ 49’’
713	29° 36’ 30”	89° 37’ 06’’
714	29° 34’ 42”	89° 42’ 25’’
715	29° 39’ 54”	89° 39’ 43’’

Date: mm/dd/yyyy

Time: 24-hour scale (military)

Taxa: Identifies the species caught by common (not scientific) name.

Total Number Caught: The number of individuals of a given species caught in one trawl sample.

Number Measured: Up to 50 individuals (abundance permitting) of a given species are measured.

Sex: Crabs (various species) are classified as male, female, or indeterminate.

Sample Duration: Ten minutes for trawl samples, 24 hours for crab traps.

Length Group: The specimens are classified into “bins”, or groups, based on length. Group 1 comprises specimens between 1X and 2X the length interval, and so on. For most of the trawl data, *Length Group* represents a multiple of 5 millimeters. For example, “Length Group=10” means that the specimen was larger than 50 mm and smaller than 55 mm. Specimens smaller than the length interval specified in the variable, *Length Interval*, below, are consigned to Group 0.

Number of Specimens in Group: Reports the number of individual specimens (of the given species from the same sample) of the indicated size.

Length Interval: The length/size groups are multiples of this interval. In most cases, this interval is 5 millimeters, on rare occasions, 1 millimeter. Instances of “0” millimeters (these are rare) mean that the entry under *Length Group* translates directly to length in millimeters. In other words, “0” means “1”.

Maturity Stage/Stage: These classifications apply only to blue crabs: immature, resting stage, partial development (vitellogenesis), ripe development (gravid, mature), and spent.

Gear Type: Reports the sampling equipment used.

Gear Observation: Reports any problems or notable details of the sampling equipment, e.g.,"gear not operating efficiently" or "gear full of ctenophores ('jelly')".

Specimen Observation: Reports any notable details of the specimen(s), e.g. "organism dead prior to sampling," or "identification uncertain."

Stage Method: Reports the method of determining sexual maturity in blue crabs, either histological analysis or by gross observation. As of 2002, only gross observation has been used.

Total Number Caught Method: Reports the method of counting individual specimens, e.g. "exact count of complete sample", or "precise weight of complete sample."

Sample Duration Units: Reports the time units. Trawl sample duration is measured in minutes. Crab trap sample duration is measured in hours.

Length Method: Reports the units and method for measuring length of an individual specimen. Either total length in millimeters or standard length in millimeters.

LDWF Project: Reports which project the trawl sampling served.

LDWF Special Project: These indicate special sampling outside of the normal schedule and locations described above.

LDWF Coastal Study Area: All of these data are coded "2" indicating the area of the Caernarvon Diversion (Breton Sound).

Bottom Water Temperature (C): Field measurement of bottom water temperature in degrees celsius.

Surface Water Temperature (C): Field measurement of surface water temperature in degrees celsius.

Bottom Specific Conductance (mS/cm): Millisiemens per centimeter.

Surface Specific Conductance (mS/cm): Millisiemens per centimeter.

Bottom Salinity (ppt): Parts per thousand, or milligrams per liter.

Surface Salinity (ppt): Parts per thousand, or milligrams per liter.

Air Temperature (C): Field measurement of air temperature in degrees celsius.

Turbidity: Turbidity is in inverse proportion to this measurement, which is visibility measured in feet.

Wind Direction: Compass bearing in degrees.

Wind Speed: Reported in knots.

Tide Stage: From 1988 through 1990, tide stages were recorded as "+", "-", or "S", indicating, respectively, "rising", "falling", and "slack". Beginning in 1991, these additional categories were recorded: low rising, mid rising, high rising, high standing, high falling, mid falling, and low falling.

Seastate: Wave amplitude, estimated distance from crest to trough.

Percent Cloud Cover: Field estimate.

Conductivity Sampling Method: Reports equipment used for field measurement.

Water Temperture Sampling Method: Reports equipment used for field measurement.

Salinity Sampling Method: Reports equipment used for field measurement.

Air Temperature Sampling Method: Reports equipment used for field measurement.

Turbidity Sampling Method: Field method for measuring turbidity, mainly by Secchi disc.

Wind Sampling Method: Field method for estimating wind speed.

Tide Stage Method: In all cases, this is done by experiential estimate.